

CLAIMS

What is claimed is:

1. A polarizer comprising a moth-eye structure including peaks and valleys and a light-transmissive inhibiting surface covering at least some of the valleys.
2. The polarizer of Claim 1, further comprising a conductive coating disposed on the light-transmissive inhibiting surface in at least some of the valleys.
3. The polarizer of Claim 2, further comprising a substantially transparent coating disposed on the polarizer.
4. The polarizer of Claim 1, wherein the light-inhibiting surface has a thickness of about 500 angstroms.
5. A method for forming a polarizer, comprising:
 - a) providing a moth-eye structure including peaks and valleys; and
 - b) forming a light-transmissive inhibiting surface on at least some of the valleys.
6. The method of Claim 5, further comprising forming a conductive coating on the light-transmissive inhibiting surface.
7. The method of Claim 6, further comprising forming a substantially transparent coating on the polarizer.
8. The method of Claim 5, wherein the polarizer is formed by first forming the light-transmissive inhibiting surface over substantially all of the peaks and the

valleys and forming a conductive coating on the inhibiting surface, the method further including removing the light-transmissive inhibiting surface and conductive coating adjacent the peaks.

9. A polarizer comprising at least one subwavelength optical microstructure including an undulating surface that includes a light-transmissive inhibiting surface in at least some low areas of the microstructure.
10. The polarizer of Claim 9, further comprising a conductive coating disposed on at least part of the light-transmissive inhibiting surface.
11. A polarizer comprising a moth-eye structure including peaks and valleys and a light-transmissive inhibiting surface covering at least some of the peaks.
12. The polarizer of Claim 11, further comprising a substantially transparent coating provided on the moth-eye structure and the light-transmissive inhibiting surface.
13. A polarizer comprising at least one subwavelength optical microstructure including an undulating surface that includes a light-transmissive inhibiting surface in at least some raised areas of the microstructure.
14. A polarizer comprising a moth-eye structure including peaks and valleys and a conductive material disposed in at least some of the valleys.
15. The polarizer of Claim 14, wherein the conductive material includes a plurality of conductive particles.
16. The polarizer of Claim 15, further comprising a substantially transparent coating provided on the polarizer.

17. The polarizer of Claim 15, wherein the particles include nanoparticles.
18. The polarizer of Claim 15, wherein the particles are about 0.2 micrometer or smaller in size.
19. The polarizer of Claim 15, wherein the particles include silver, aluminum, titanium dioxide, or a combination thereof.
20. The polarizer of Claim 15, wherein a magnetic device is used to position the particles in at least some of the valleys.
21. The polarizer of Claim 14, wherein the conductive material includes conductive filler.
22. The polarizer of Claim 14, wherein the conductive material includes a plurality of conductive fibers.
23. The polarizer of Claim 14, further comprising a substantially transparent coating on the polarizer.
24. A polarizer comprising at least one subwavelength optical microstructure including an undulating surface that includes a conductive material disposed in at least some low areas of the microstructure.
25. A method for forming a polarizer, comprising:
 - a) providing a moth-eye structure including peaks and valleys; and
 - b) forming a conductive material in at least some of the valleys.

26. A polarizer comprising a moth-eye structure including peaks and valleys and an opaque filler disposed in at least some of the valleys.
27. The polarizer of Claim 26, further comprising a substantially transparent coating disposed on the polarizer.
28. A polarizer comprising a moth-eye structure including peaks and valleys, at least some of the peaks including a conductive material.
29. The polarizer of Claim 28, wherein the conductive material includes a plurality of conductive particles.
30. The polarizer of Claim 28, wherein the conductive material includes conductive resin that forms at least part of at least some of the peaks.
31. The polarizer of Claim 28, further comprising a substantially transparent coating disposed on the polarizer.
32. A method for forming a polarizer, comprising:
 - a) providing a resin on a mold that forms a moth-eye structure having peaks and valleys;
 - b) providing a plurality of particles in the resin; and
 - c) curing the resin to form the moth-eye structure, the particles being disposed within at least some of the peaks of the moth-eye structure.
33. The method of Claim 32, further comprising providing a substantially transparent coating on the polarizer.